

CHAPTER 6.0: DEMAND MANAGEMENT MEASURES

6.1 DEMAND MANAGEMENT MEASURE IMPLEMENTATION

The Yorba Linda Water District implements numerous programs dedicated to water conservation, many of which are performed on a regional level through MWDOC. YLWD coordinates with MWDOC to obtain funding, and to implement rebate programs, educational outreach, and additional Best Management Programs (BMPs). This provides consistency between all retail water agencies in Orange County and within the region and allows a coordinated public conservation campaign.

The Yorba Linda Water District currently implements, or plans to implement, all of the applicable required Demand Management Measures. Table 6.1–1: Implementation of Demand Management Measures details the implementation status of each Demand Management Measure.

| Table 6.1–1: Implementation of Demand Management Measures | | | |
|---|-------------|----------------------------|-----------------|
| Demand Management Measure | Implemented | Planned for Implementation | Not Implemented |
| 1. Water Survey Programs for Residential Customers | | √ | |
| 2. Residential Plumbing Retrofit | √ | | |
| 3. System Water Audits, Leak Detection and Repair | √ | | |
| 4. Metering with Commodity Rates | √ | | |
| 5. Large Landscape Conservation Programs and Incentives | | √ | |
| 6. High-Efficiency Washing Machine Rebate Programs | √ | | |
| 7. Public Information Programs | √ | | |

Table 6.1–1 (Continued): Implementation of Demand Management Measures

| Demand Management Measure | Implemented | Planned for Implementation | Not Implemented |
|--|--------------------|-----------------------------------|------------------------|
| 8. School Education Programs | √ | | |
| 9. Commercial, Industrial and Institutional Programs | √ | | |
| 10. Wholesale Agency Programs | | | √ (Not Applicable) |
| 11. Conservation Pricing | | √ | |
| 12. Water Conservation Coordinator | √ | | |
| 13. Water Waste Prohibition | √ | | |
| 14. Residential ULFT Replacement Programs | √ | | |

6.1.1 Water Survey Programs for Residential Customers

In the past, a formal program was implemented in which a qualified surveyor checked water–using devices within single and multi–family homes to evaluate landscape and irrigation programs. This program ceased in the fiscal year ending in June of 2002. Additionally, survey programs are not planned for future implementation. As an alternative, the following programs are made available to target landscape and irrigation water consumption reduction.

SmarTimer Rebate Program (as of 2004):

The Yorba Linda Water District participates in the regional SmarTimer Rebate Program. The Program allows customers to receive a rebate when they purchase and install a new, state–of–the–art, weather–based sprinkler timer that saves up to 41 gallons per day per residential installation. It also reduces runoff and pollution by 49 percent. While no installations have been made to date, YLWD is a participant of this program.

Protector Del Agua Irrigation Management Training:

The Yorba Linda Water District (in conjunction with MWDOC) provides education to residential homeowners on a variety of landscape water efficiency practices they can employ in their homes. A series of four classes or one mini class is made available to educate the community about basic landscape design, landscape plants, landscape sprinkler systems and landscape watering/fertilizing. A summary of the Orange County community participation in this program is summarized in Table 6.1–2: Protector Del Agua Irrigation Management Training Residential Participation Survey below.

| Table 6.1–2: Protector Del Agua Irrigation Management Training Countywide Residential Participation Survey | | | | | |
|---|-------------|-------------|-------------|-------------|-------|
| | FY 01/02 | FY 02/03 | FY 03/04 | FY 04/05 | Total |
| Number of Participants | 405 | 945 | 847 | 537 | 2,734 |

6.1.2 Residential Plumbing Retrofit

According to the 2001 *Orange County Saturation Study* conducted by MWDOC and Metropolitan, water agencies throughout Orange County have achieved the required 75 percent saturation of low-flow showerhead use supported by a 95 percent confidence level. Since 1991, a total of 9,972 low-flow showerheads, paid for by MWDOC, have been installed in the YLWD service area. A summary of these installations and the resulting water savings in AFY is demonstrated in table 6.1–3: Residential Plumbing Retrofit by the Yorba Linda Water District below. The calculated annual water savings are based on 5.56 GPD per device savings. The calculations incorporate devices installed in previous years, and do not take into account the life cycle of the device. Yorba Linda has achieved the goal of 75 percent saturation of low-flow showerhead use, and has since discontinued promotion of the program. However, upon request, YLWD will accommodate District customers.

| Table 6.1–3: Residential Plumbing Retrofit by the Yorba Linda Water District | | | | |
|--|---|---|-------------------------------|--|
| Fiscal Year Ending in June of | Number of Low-Flow Showerheads Installed | Actual Yorba Linda Expenditures (\$) | Actual Water Savings (AFY) | |
| 1991 | 8,945 | \$0 | 56 | |
| 1992 | 0 | \$0 | 56 | |
| 1993 | 222 | \$0 | 57 | |
| 1994 | 151 | \$0 | 58 | |
| 1995 | 61 | \$0 | 58 | |
| 1996 | 251 | \$0 | 60 | |
| 1997 | 183 | \$0 | 61 | |
| 1998 | 159 | \$0 | 62 | |
| 1999 | 0 | \$0 | 62 | |
| 2000 | 0 | \$0 | 62 | |
| 2001 | 0 | \$0 | 62 | |
| 2002 | 0 | \$0 | 62 | |
| 2003 | 0 | \$0 | 62 | |
| 2004 | 0 | \$0 | 62 | |
| Totals | 9,972 | 0 | 903 | |

6.1.3 System Water Audits, Leak Detection and Repair

Water that exits the distribution system and cannot be accounted for is known as unaccounted-for water. Some of the most common factors that contribute to unaccounted-for water include leaks in pipelines, main breaks, fire hydrant testing and flushing, storage tank drainage and maintenance, inaccurate meters, unauthorized use and un-metered services. For YLWD, the quantity of unaccounted-for water was determined by subtracting the total consumption from the total production. The difference between the two totals represents the amount of unaccounted-for water. According to the 2005 Domestic Water System Master Plan, YLWD has experienced an average of 4 percent unaccounted-for water losses per year over the last 10 years varying between 2 and 8 percent. Typically this value falls within the range of 5 to 10 percent for most water systems; therefore, Yorba Linda maintains relatively low unaccounted-for water losses.

Due to Yorba Linda's Meter Maintenance Program and Pipeline Replacement Program; it is projected that this value will remain at an average of 4 percent throughout the future, as demonstrated in Table 6.1–5: Projected System Water Audits Leak Detection and Repair on the following page.

6.1.3.1 Meter Maintenance Program

Water meters are key to the District's ability to collect revenues for the water it sells. However, like any other mechanical device, water meters require routine maintenance to function properly. Typically, water meters that are not regularly maintained will read less than the actual amount flowing, but it is also not uncommon for these meters to stop working altogether. The interval at which water meters should be maintained varies with meter type, meter size, water use patterns, water quality, and other parameters. Small residential and commercial meters should be tested every 5 to 10 years and rebuilt or replaced as appropriate. Large meters should be calibrated annually and rebuilt or replaced as required. Typically, the calibration of larger meters can be checked with the meter in place. If a problem is identified, then the meter can be replaced with a new or refurbished one and the existing meter pulled out for repairs. If it is found that a large number of meters are not reading properly when they are inspected, then the maintenance schedule would be shortened.

6.1.3.2 Pipeline Replacement Program

Yorba Linda Water District's distribution system includes about 640 miles of 4 to 39-inch water mains. According to the YLWD 2005 Domestic Water System Master Plan, an average of 1 percent of the existing pipelines should be replaced each year. Rehabilitation projects, such as relining of the existing pipe, typically reduce the useful diameter and are therefore only practical where excess capacity exists. Rehabilitation includes replacement of main line valves, fire hydrants, and appurtenances.

Table 6.1–4: System Water Audits Leak Detection and Repair

| Year | Average Percent of Unaccounted Water (%) | Total Miles of Distribution Lines | Miles of Lines Replaced | Actual YLWD Expenditures (\$) |
|-------------|---|--|--------------------------------|--------------------------------------|
| 2001 | 3% | 640 | 1.75 | \$3,700,000 |
| 2002 | 6% | 640 | 0.25 | \$350,000 |
| 2003 | 7% | 640 | 0.5 | \$600,000 |
| 2004 | 4% | 640 | 0.75 | \$1,000,000 |
| 2005 | 4% | 640 | 2.0 | \$4,100,000 |

Table 6.1–5: Projected System Water Audits Leak Detection and Repair

| Year | Average Percent of Unaccounted Water (%) | Total Miles of Distribution Lines | Miles of Lines to be Replaced | Projected YLWD Expenditures (\$) |
|-------------|---|--|--------------------------------------|---|
| 2006 | 4% | 640 | 1.5 | \$1,700,000 |
| 2007 | 4% | 640 | 0.5 | \$600,000 |
| 2008 | 4% | 640 | 0.5 | \$650,000 |
| 2009 | 4% | 640 | 0.5 | \$700,000 |
| 2010 | 4% | 640 | 0.5 | \$750,000 |

6.1.4 Metering with Commodity Rates

Metering with commodity rates by wholesale and retail agencies has been an industry standard throughout Orange County for many years. It involves setting water rates based upon the external costs of importing water or producing water from local sources, the internal costs of distribution and service and establishing the sources for financing or funding these costs. Currently, the Yorba Linda Water District charges a minimum service charge of \$7.92 per monthly bill with an additional fee of \$1.57 billed per 100 cubic feet (748 gallons) of water. The following table, Table 6.1–6: Projected Metering with Commodity Rates for All New Connections and Retrofit of Existing Connections, lists a summary of the projected and planned commodity rate metering program.

| Table 6.1–6: Projected Metering with Commodity Rates for All New Connections and Replacement of Existing Connections | | | | |
|--|------------------------------|--|--|----------------------------------|
| Year | Number of Unmetered Accounts | Number of Replacement Meters to be Installed | Number of Accounts Without Commodity Rates | Projected YLWD Expenditures (\$) |
| 2006 | 0 | 4100 | 0 | \$1,300,000 |
| 2007 | 0 | 4500 | 0 | \$1,400,000 |
| 2008 | 0 | 4300 | 0 | \$1,350,000 |
| 2009 | 0 | 2450 | 0 | \$900,000 |
| 2010 | 0 | 2200 | 0 | \$950,000 |

6.1.5 Large Landscape Conservation Programs and Incentives

These programs are offered in Orange County to assist retail agencies and their large landscape customers to use water efficiently. The programs offered are as follows:

1. Landscape Performance Certification Program

As of 2003, a program entitled Landscape Performance Certification Program, which provides a water based budget for designated meters has been available to YLWD customers for participation. This program involves developing water budgets based on agency-provided consumption data, site-provided area measurement, local weather data and contact information for the site owner, the responsible landscape company and a property manager. On a monthly basis the site's water budget is developed by water meter data and provided back to the three involved entities (the property owner, the property manager and the landscape company) in an e-mail report card format. Also included is a website where all involved parties can view the site-specific budget numbers. These numbers illustrate whether a meter is over, under, or right on their budget. Included is a calculation based on individual water rates showing dollars lost. This program does not have a formal landscape survey component or a marketing/targeting strategy for landscape surveys. Financial incentives offered to improve landscape water use efficiency and regional funding for these programs are available from Metropolitan. While no budgets have been developed to date within the YLWD service area, it is anticipated that they will be developed in the future.

2. Protector Del Agua Irrigation Management Training

The Yorba Linda Water District (in conjunction with MWDOC) provides education to residential homeowners on a variety of landscape water efficiency practices they can employ in their homes. A series of four classes or one mini class is offered to encourage community participation covering basic landscape design, landscape plants, landscape sprinkler systems and landscape watering/fertilizing.

3. SmarTimer Rebate Program

The Yorba Linda Water District is a participant in the regionally coordinated SmarTimer Rebate Program. The Program allows customers to receive a rebate when they purchase and install a new, state-of-the-art, weather-based sprinkler timer that saves up to 41 gallons per day per residential installation. It has been demonstrated to reduce runoff and pollution by 49 percent. Within the YLWD service area; no installations have been made to date.

The Yorba Linda Water District, in conjunction with MWDOC, has made available materials with the goal of identifying and correcting specific water wasting situations. Large Landscape Audits are offered to governmental, industrial and commercial entities. Emphasis of the materials is on assisting landscape managers in making more efficient use of water by identifying and correcting problems with irrigation systems, recommending more efficient irrigation practices and recommending a reduction of turfgrass areas and replacement with drought-tolerant plant materials.

4. Artificial Grass

In the future, the Yorba Linda Water District may participate in a program to install artificial grass in large landscape areas, including school activities fields. This program may include funding for up to 50% of the total purchase and installation cost.

| Table 6.1–7: Projected Large Landscape Conservation Programs and Incentives | | | | | |
|---|-----------------------------------|-----------------------------------|----------------------------|----------------------------------|-------------------------------|
| Year | Number of Budgets to be Developed | Number of Surveys to be Completed | Number of Follow-Up Visits | Projected YLWD Expenditures (\$) | Projected Water Savings (AFY) |
| 2005 | 0 | 1 | 0 | \$0 | 0 |
| 2006 | 5 | 1 | 60 | \$0 | 4 |
| 2007 | 10 | 1 | 120 | \$0 | 9 |
| 2008 | 15 | 1 | 180 | \$0 | 13 |
| 2009 | 20 | 1 | 240 | \$0 | 17 |
| 2010 | 25 | 1 | 300 | \$0 | 21 |

6.1.6 High-Efficiency Washing Machine Rebate Programs

For each High-Efficiency Clothes Washer (HECW) purchased and properly installed within the Yorba Linda Water District service area, a \$100 is rebate made available. Rebates are distributed on a first-come, first-served basis, while funds last. Machines must be purchased after January 1, 2002 and installed in Orange County. Participants must also be willing to allow inspection of the installed machine for verification of program compliance. As of 2005, machines must have a water factor of 6.0 or less to qualify for the rebate program. These machines typically use 15 to 25 gallons less water per load, with a potential water savings of up to 7,000 gallons per year. Qualified models are classified regionally and are listed on the MWDOC website. These are for single family residential homes. Other energy utilities, such as Edison may have a rebate; this is not tracked by Yorba Linda. Participation in this program by customers within the YLWD service area is summarized in Table 6.1–8: High Efficiency Washing Machine Rebate Programs below. Actual water savings amount to 11.5 gallons per day per machine. From this value, calculations were performed to obtain annual values. YLWD coordinated with MWDOC to obtain funding for participants of this program.

| Table 6.1–8: High Efficiency Washing Machine Rebate Programs | | | | |
|--|----------------------------|---------------------------|----------------------------------|-------------------------------|
| Fiscal Year Ending in June of | Dollars Per Rebate (\$) | Number of Rebates Paid | Actual YLWD Expenditures (\$) | Actual Water Savings (AFY) |
| 2002 | \$100 | 36 | \$0 | 0.5 |
| 2003 | \$100 | 214 | \$0 | 3.2 |
| 2004 | \$100 | 342 | \$0 | 7.7 |
| 2005 | \$100 | 355 | \$0 | 12.2 |
| Total For All Fiscal Years | – | 947 | \$0 | 23.51 |

Projections for participation in the HECW program by the Yorba Linda Water District are featured in Table 6.1–9: Projected High Efficiency Washing Machine Rebate Programs. The projections were developed based on an average of previous years. In addition, the projected water savings take into account devices installed in previous years to accurately reflect the total water saving per year resulting from the program.

| Table 6.1–9: Projected High Efficiency Washing Machine Rebate Programs | | | | |
|--|----------------------------|------------------------------------|-------------------------------------|-------------------------------------|
| Fiscal Year Ending in June of | Dollars Per Rebate (\$) | Number of Rebates to be Paid | Projected YLWD Expenditures (\$) | Projected Water Savings (AFY) |
| 2006 | \$100 | 237 | \$0 | 15.3 |
| 2007 | \$100 | 237 | \$0 | 18.3 |
| 2008 | \$100 | 237 | \$0 | 21.4 |
| 2009 | \$100 | 237 | \$0 | 27.5 |
| 2010 | \$100 | 237 | \$0 | 130.3 |

6.1.7 Public Information Programs

Water use efficiency public information programs are built around communication, coordination and partnerships with regional agencies; cities, MWDOC, Metropolitan, local, state, federal legislative and regulatory bodies. Information programs are carried out on behalf of YLWD and in coordination with regional efforts. The goal is to help the public understand current issues and the challenges, opportunities, and costs involved in securing a reliable supply of high quality water.

YLWD endeavors to reach the public with accurate information regarding present and future water supplies, the demands for a suitable quantity and quality of water and the importance of implementing water efficient techniques and behaviors. Members of YLWD coordinate with regional water agencies to publicize the availability of water use efficiency programs and technology throughout Orange County, and to provide a consistent, synchronized regional message. A description of the public information programs is provided below.

The Yorba Linda Water District has also implemented Public Relations campaigns to spread information about YLWD's current issues, challenges, opportunities, and demands for a suitable quantity and quality of water. The programs emphasize the importance of implementing water efficient techniques and behaviors, and distribute accurate information regarding present and future water supplies.

Poster/Slogan Contest

Each year, elementary school students are honored as winners in the "Water is Life" Poster and Slogan Contest. Entries to the contest are solicited throughout the fall and winter as part of the school education program. More than 1,000 entries are typically received regionally, a portion of which are from the YLWD service area. As part of participation in this program, winners within the Yorba Linda Water District will be recognized in May and June at a YLWD Board of Directors meeting. The winning artwork and slogans will be incorporated into a school year calendar for distribution to every classroom in Orange County the following academic year.

Local and Regional Events

Through its participation in the Association of California Water Agencies and the California Water Awareness Campaign, representatives of the Yorba Linda Water District will also support and participate in statewide events and activities throughout Water Awareness Month. This includes procuring a proclamation from the State Governor, distributing media kits and

distributing water education kits to classrooms, all of which reinforce the need to use water wisely, especially in the semi-arid Southern California region.

Participation In Community Parades

YLWD enters floats in two local community events, the Placentia Heritage Days Parade and Yorba Linda Fiesta Days Parade. The floats feature a water conservation message adapted to the theme of the parade. Since 1985, it is estimated that more than 12,000 people, not including viewers of the local cable television broadcast, have seen YLWD floats.

Participation in Community Events

The Yorba Linda Water District sponsors an information booth at the Yorba Linda Fiesta Days street fair, Main Street Arts & Craft Fair and “Go with the Flow” 5K run & Environmental Exposition. YLWD also sponsors an information booth at the American Cancer Society’s “Walk for Life.” The booth is an opportunity to distribute materials about the District’s water conservation and Xeriscape programs, meet directly with the public to discuss water issues, and pass out drinking water, stress relief water drops, and YLWD water bottles. Since 1985, it is estimated that more than 3,000 people have visited several YLWD sponsored information booths.

Speakers Bureau/Student Tours

Speakers Bureau

Speakers Bureaus are held for local civic, school, and business groups, with presentations on key issues affecting Orange County’s water supply. Water use efficiency programs and conservation tips for residents and businesses are integrated into these presentations. During the presentations, printed handouts explaining rebate programs (e.g. High Efficiency Clothes Washer Rebate Program) and other programs (Residential and Commercial Landscaping Workshops, Landscaper Certification) unique to YLWD are sometimes distributed for promotional purposes.

Student Tours

YLWD also provides tours of its Richfield Road facility to many scout and youth groups and has an ongoing arrangement with the Fullerton College Environmental Studies Department to provide comprehensive tours of District facilities. Since 1985, YLWD has made presentations and/or provided facilities tours to more than 2,500 people.

Information Materials

The Yorba Linda Water District prepares press releases, newsletters, fliers, reports, plans, and other publications to raise public awareness about water conservation. Many of these items are posted on the YLWD website (www.ylwd.com), which displays useful information about upcoming events, programs, water conservation tips, and FAQ's. A bulletin board features links to information about facility tours, public hearings, the YLWD speaker's bureau, informational videos, press releases, committee meetings, and water conservation programs. The website also provides links to relevant agencies including MWDOC, Metropolitan, and the Cities of Anaheim, Brea, and Placentia to name a few.

Distribution of Water Conservation Materials

YLWD actively distributes Water Conservation Kits and brochures to residents opening new service accounts. These materials are also available to the public in the customer service lobby, via the mail upon request and at the District's various public events. Since 1985, more than 5,000 kits have been distributed by YLWD.

Waterlines Newsletter

YLWD publishes a quarterly newsletter that is sent to all customers with their water bills. Articles frequently address the subjects of water supply, water conservation and Xeriscape programs. Since 1985, approximately 720,000 newsletters have been mailed to YLWD customers.

Water Bill Message

Water bills are sent to customers on a monthly basis. A message area is frequently utilized for a brief water conservation message. YLWD mails about 250,000 water bills every year. It is the YLWD's practice to include a "Use Water Wisely" message on all water bills

Special "Drought Alert" Mailings

The District has developed a comprehensive mailing list of persons who have attended our public events or have requested information on water related issues. YLWD has used this communication method on several occasions, and each year includes funding in the Budget to mail letters if necessary.

Water Quality Reports

Each year, YLWD develops a Water Quality Report. This report, required by the California Department of Health Services, is distributed to all residents of the Yorba Linda Water District.

The report includes information about the sources of water for each customer and quality of that source water, as well as the quality of the water that consumers receive. The report also provides YLWD with the opportunity to include messages about water use efficiency and conservation to all county residents.

Media Relations

YLWD is a credible source of information to the media for local, regional, and statewide water issues. YLWD staff integrates information from legal, environmental, and other informed reports into newsletters made available to the public via the YLWD website (www.ylwd.com). YLWD staff takes advantage of the local public access channel, facility tours, and press releases as a means of disseminating critical water conservation issues and messages to the public. The details of these relations are provided below.

Press Releases/Media Relations

The YLWD staff prepares press releases on general YLWD news, upcoming public events, programs, and special issues of concern regarding water supply and conservation. Press releases are coordinated with regional agencies to ensure message consistency as information on water use efficiency is circulated. The Yorba Linda Water District also maintains contact with print, electronic and trade media and often serves as a resource for reporters seeking general and specific information.

Cable Television

YLWD utilizes the local cable television public access channel and frequently runs a message announcing upcoming public events and encouraging water conservation.

Public Tours of District Facilities

YLWD conducts four public information tours of its water facilities per year. These tours accommodate up to 45 local residents and include visits to Metropolitan's Diemer Water Treatment Plant; YLWD's Richfield Road field headquarters, wells, water production operation and telemetry unit, the Santa Ana River groundwater recharge operation, Fairmont Reservoir Xeriscape Demonstration Garden and a general tour of the District that illustrates growth in the area. The topics of water supply and water conservation are discussed at length during these tours. Since 1985, it is estimated that nearly 1,000 people have attended YLWD facilities tours.

| Table 6.1–10: Projected Public Information Programs | | | | | |
|---|----------|----------|----------|----------|----------|
| Fiscal Year Ending in June of | 2006 | 2007 | 2008 | 2009 | 2010 |
| Public Service Announcement | \$,1000 | \$1,000 | \$1,100 | \$1,100 | \$1,200 |
| Publications | \$27,000 | \$28,700 | \$29,500 | \$30,250 | \$31,500 |
| Special Events | \$3,000 | \$3,000 | \$3,300 | \$3,300 | \$3,600 |
| Promotional Items | \$6,000 | \$6,250 | \$6,500 | \$6,500 | \$6,750 |
| Water Conservation Materials | \$1,000 | \$1,100 | \$1,200 | \$1,300 | \$1,400 |
| Projected Expenditures (\$) | \$38,000 | \$40,050 | \$41,600 | \$42,450 | \$44,450 |

6.1.8: School Education Programs

One of the most successful and well-recognized water-education curriculums in Southern California is the School Education Program coordinated regionally by MWDOC, YLWD, and other regional agencies. For more than 30 years, teachers, assisted by mascot "Ricki the Rambunctious Raindrop," have been educating students in grades K-12 about the water cycle, the importance and value of water and the personal responsibility we all have as environmental stewards.

Since its inception in January 1973, the School Education Program has evolved into what has become the standard for all water-education curriculums. In 2004, the Program formed an exciting partnership with the Discovery Science Center that has allowed both parties to reach more Orange County students each year and provide them with even greater educational experiences in the areas of water and science. To date nearly 2.5 million Orange County students have benefited from the Program.

Students learn about the water cycle, the importance and value of water and the personal responsibility each individual has to protect this vital resource. A record of the number of presentations provided along with the number of students that were presented to within YLWD between fiscal years 2000 and 2005 is listed in Table 6.1-13: School Education Programs for the Yorba Linda Water District below. All expenditures for this program were incurred by MWDOC.

| Table 6.1-11: School Education Presentations for the Yorba Linda Water District | | | | | | |
|---|---------------|-------------------|-----------------|-----------------|-----------------|------------------|
| Fiscal Year Ending In June of | Presentations | Students Total | Students K-3 | Students 4-6 | Students 7-8 | Students 9-12 |
| 2001 | 29 | 2722 | 1696 | 1026 | 0 | 0 |
| 2002 | 28 | 2554 | 1692 | 862 | 0 | 0 |
| 2003 | 14 | 1048 | 708 | 340 | 0 | 0 |
| 2004 | 13 | 1211 | 891 | 320 | 0 | 0 |
| 2005 | 2 | 176 | 119 | 57 | 0 | 0 |

The number of presentations provided to each grade level was calculated by taking the percentage of students at each grade level and applying that percentage to the total number of

presentations. The results of these calculations are demonstrated in Table 6.1–12: School Education Presentations for the Yorba Linda Water District below.

| Table 6.1–12: School Education Presentations for the Yorba Linda Water District | | | | |
|--|------------------------------|------------------------------|------------------------------|-------------------------------|
| Fiscal Year Ending in June of | Presentations K–3 | Presentations 4–6 | Presentations 7–8 | Presentations 9–12 |
| 2001 | 18 | 11 | 0 | 0 |
| 2002 | 19 | 9 | 0 | 0 |
| 2003 | 9 | 5 | 0 | 0 |
| 2004 | 10 | 3 | 0 | 0 |
| 2005 | 1 | 1 | 0 | 0 |

Projected values for school education programs to be provided in the future are provided below. The projections were made based on the number of presentations offered between 2001 and 2005 averaged over time.

| Table 6.1–13: Projected School Education Presentations for the Yorba Linda Water District | | | | |
|--|------------------------------|------------------------------|------------------------------|-------------------------------|
| Fiscal Year Ending in June of | Presentations K–3 | Presentations 4–6 | Presentations 7–8 | Presentations 9–12 |
| 2006 | 11 | 6 | 0 | 0 |
| 2007 | 11 | 6 | 0 | 0 |
| 2008 | 11 | 6 | 0 | 0 |
| 2009 | 11 | 6 | 0 | 0 |
| 2010 | 11 | 6 | 0 | 0 |

6.1.9: Commercial, Industrial and Institutional Programs

The goal of commercial, industrial and institutional programs is to identify and rank customers according to use and to establish long-term implementation targets for the replacement of high water using devices with low water using devices. A rebate program encourages YLWD customers to replace high-flow devices with low-flow devices, including Ultra-Low-Flush-Toilets (ULFTs) but does not include surveys conducted for commercial, industrial and institutional accounts. The program began in 2001 and the majority of the rebates paid were for commercial replacements.

Save Water–Save a Buck!

This program began in 2001 and offers rebates to assist commercial, industrial and institutional customers in replacing high-flow plumbing fixtures with low-flow fixtures. Facilities where low-flow devices are installed must be located in Orange County. Rebates are available only on those devices listed in Table 6.1–14: Retrofit Devices and Rebate Amounts below. In addition, the rebates only apply if the devices are used to replace higher water use devices. Installation of devices is the responsibility of each participant. Participants may purchase and install as many of the water saving devices as is applicable to their site.

| Table 6.1–14: Retrofit Devices and Rebate Amounts | |
|--|---------------|
| Retrofit Device | Rebate Amount |
| Ultra-Low-Flush Toilet | \$60 to \$120 |
| Ultra-Low-Flush Urinal or Waterless Urinal | \$60 |
| Flush Valve Retrofit Kit | \$15 |
| Coin/Card-Operated High Efficiency Commercial Clothes Washer | \$250 |
| Cooling Tower Conductivity Controller | \$500 |
| Hospital X-ray Film Processor Recirculating System | \$2,000 |
| Water Pressurized Broom | \$100 |

YLWD's participation in this program is demonstrated in Table 6.1–15: Commercial, Industrial and Institutional Retrofit Devices Replaced. The actual water savings were calculated based on 24.5 gallons per day water savings per device.

| Table 6.1–15: Commercial, Industrial and Institutional Retrofit Devices Replaced | | | | |
|---|--------------------------|-----------------------------------|-------------------------|-----------------------------------|
| Fiscal Year Ending in June of | Devices Installed | Actual Water Savings (AFY) | ULFT's Installed | Actual Water Savings (AFY) |
| 2002 | 4 | <1 | 0 | 0 |
| 2003 | 12 | <1 | 1 | <1 |
| 2004 | 1 | <1 | 1 | <1 |
| 2005 | 0 | <1 | 0 | <1 |
| Totals | 17 | 1.48 | 2 | <1 |

Projected values for YLWD's customer participation in this program is available in the table below. Projections were calculated based on a historical average between the years of 2002 and 2005. The calculations for projected annual water savings take into account devices installed in previous years.

| Table 6.1–16: Projected Commercial, Industrial and Institutional Retrofit Devices to be Replaced | | | | |
|---|--------------------------------|--------------------------------------|-------------------------------|--------------------------------------|
| Fiscal Year Ending in June of | Devices to be Installed | Projected Water Savings (AFY) | ULFT's to be Installed | Projected Water Savings (AFY) |
| 2006 | 4 | 1.6 | 1 | <1 |
| 2007 | 4 | 1.7 | 1 | <1 |
| 2008 | 4 | 1.8 | 1 | <1 |
| 2009 | 4 | 1.9 | 1 | <1 |
| 2010 | 4 | 2.0 | 1 | <1 |

6.1.10: Wholesale Agency Programs

The Municipal Water District of Orange County is the wholesale agency for YLWD. This Demand Management Measure is therefore not applicable to the Yorba Linda Water District, as they are not classified as a wholesale agency.

6.1.11: Conservation Pricing

YLWD's customers are charged an identical rate for all water consumed above a minimum service charge that is based on the size of their water meter. The District has continued to research ways for achieving further gains in water use efficiency. Alternatives to the current billing arrangement are discussed below.

- a. Flat Rate Increase. This alternative would raise water rates above current levels. The concept of "price elasticity" assumes that consumption of a product will decrease if the cost of the product is increased. Price elasticity could be assumed with regard to discretionary uses of water beyond the minimum required for drinking, cooking and health needs.
- b. Increasing Block Rates. This alternative calls for the initial block quantity of water use to approximate low winter usage levels. The lowest block cost would apply the first block consumed during the billing period. Higher fees are assessed for subsequent blocks. The higher incremental cost of subsequent blocks assumes price will motivate consumers to practice conservation measures by installing water saving devices and/or drought tolerant landscaping.

These practices are also in various stages of development and may be implemented as conditions warrant and the benefits of their adoption are found to be worthwhile. These pricing programs are designed to promote water conservation

6.1.12: Water Conservation Coordinator

The Yorba Linda Water District employs workers who take an active role in promoting conservation. Together, these positions serve as the Water Conservation Coordinator.

| Table 6.1–17: Water Conservation Coordinator | | | | |
|--|-------------------------------|---------------------------|-----------------------------------|--------------------------|
| Year | Number of Full–Time Positions | Number of Part–Time Staff | Position Supplied by Other Agency | Actual Expenditures (\$) |
| 2001 | 0 | 1 | 1 | \$26,000 |
| 2002 | 0 | 1 | 1 | \$27,000 |
| 2003 | 0 | 1 | 1 | \$28,000 |
| 2004 | 0 | 1 | 1 | \$29,000 |
| 2005 | 0 | 1 | 1 | \$30,000 |

| Table 6.1–18: Projected Water Conservation Coordinator | | | | |
|--|-------------------------------|---------------------------|-----------------------------------|-----------------------------|
| Year | Number of Full–Time Positions | Number of Part–Time Staff | Position Supplied by Other Agency | Projected Expenditures (\$) |
| 2006 | 0 | 1 | 1 | \$31,000 |
| 2007 | 0 | 1 | 1 | \$32,000 |
| 2008 | 0 | 1 | 1 | \$33,000 |
| 2009 | 0 | 1 | 1 | \$34,000 |
| 2010 | 0 | 1 | 1 | \$35,000 |

6.1.13: Water Waste Prohibition

The Yorba Linda Water District adopted Ordinance 91-02, an Emergency Water Management Program, on March 28, 1991. The Ordinance established priority uses of water, four drought response levels, and enforcement provisions. This Ordinance is included in Appendix E.

| Table 6.1-19: Water Waste Prohibition | | | | |
|---------------------------------------|---------------------------|--------------------------|--------------------------|--------------------------|
| Year | Waste Ordinance in Effect | Number of On-Site Visits | Water Softener Ordinance | Actual Expenditures (\$) |
| 2001 | 91-02 | 0 | - | \$0 |
| 2002 | 91-02 | 0 | - | \$0 |
| 2003 | 91-02 | 0 | - | \$0 |
| 2004 | 91-02 | 0 | - | \$0 |
| 2005 | 91-02 | 0 | - | \$0 |

| Table 6.1-20: Projected Water Waste Prohibition | | | | |
|---|---------------------------|--------------------------|--------------------------|--------------------------|
| Year | Waste Ordinance in Effect | Number of On-Site Visits | Water Softener Ordinance | Actual Expenditures (\$) |
| 2006 | 91-02 | 0 | - | \$0 |
| 2007 | 91-02 | 0 | - | \$0 |
| 2008 | 91-02 | 0 | - | \$0 |
| 2009 | 91-02 | 0 | - | \$0 |
| 2010 | 91-02 | 0 | - | \$0 |

6.1.14: Residential Ultra Low Flush Toilet (ULFT) Replacement Programs

Over the past ten years, YLWD (in conjunction with MWDOC) has implemented ULFT rebate and distribution programs. The rebate program began in 1997 and has provided incentive to its customers to replace high water using devices with ULFTs by providing a rebate between \$50 and \$90 for such replacement. The distribution program ended in 2003. The program involved the distribution of ULFTs out of agency or school parking lots. When the program initially started, a co-pay ranging between \$30 to \$50 was required for all participants. Beginning in 2002, free ULFTs were offered to agencies who resided in both OCWD and OCSD's service area.

Marketing materials such as water bill inserts, direct mailers, or brochures are developed regionally to advertise, promote, and/or distribute to Orange County customers. All funding for both the rebate and replacement program was made available by MWDOC; therefore, YLWD did not incur any expenditures for this program.

The tables on the following pages detail the rebate and distribution of ULFTs within the YLWD service area. No direct installs or Community Based Organization (CBO) distributions were made available. For all replacements made, water savings totals 23.4 gallons per day per device for single-family users and 48.7 gallons per day per device for multi-family users. The annual water savings were calculated incorporating devices installed in previous years.

**Table 6.1 – 21: Single-Family Residential
Ultra-Low-Flush Toilet Replacement Program**

| Fiscal Year Ending in June of | Number of ULFT Rebates | Number of ULFT Distributions | Total Replacements | Actual Water Savings (AFY) |
|--|-----------------------------------|---|-------------------------------|---------------------------------------|
| 1994 | 0 | 173 | 173 | 5 |
| 1995 | 0 | 75 | 75 | 7 |
| 1996 | 0 | 275 | 275 | 14 |
| 1997 | 0 | 417 | 417 | 25 |
| 1998 | 177 | 143 | 320 | 33 |
| 1999 | 314 | 44 | 358 | 42 |
| 2000 | 334 | 1008 | 1342 | 78 |
| 2001 | 242 | 483 | 725 | 97 |
| 2002 | 273 | 1374 | 1647 | 140 |
| 2003 | 299 | 787 | 1086 | 168 |
| 2004 | 111 | 457 | 568 | 183 |
| 2005 | 142 | 0 | 142 | 187 |
| Totals | 1892 | 5236 | 7128 | 977 |

**Table 6.1 – 22: Multi-Family Residential
Ultra-Low-Flush Toilet Replacement Program**

| Fiscal Year Ending in June of | Number of ULFT Rebates | Number of ULFT Distributions | Total Replacements | Actual Water Savings (AFY) |
|--|-----------------------------------|---|-------------------------------|---------------------------------------|
| 1994 | 0 | 6 | 6 | <1 |
| 1995 | 0 | 3 | 3 | <1 |
| 1996 | 0 | 34 | 34 | 2 |
| 1997 | 0 | 0 | 0 | 2 |
| 1998 | 23 | 114 | 137 | 10 |
| 1999 | 28 | 18 | 46 | 12 |
| 2000 | 58 | 0 | 58 | 15 |
| 2001 | 33 | 1 | 34 | 17 |
| 2002 | 30 | 13 | 43 | 20 |
| 2003 | 27 | 42 | 69 | 23 |
| 2004 | 22 | 37 | 59 | 27 |
| 2005 | 16 | 0 | 16 | 27 |
| Totals | 237 | 268 | 505 | 156 |

The projections provided in the tables below were calculated based on the average historical rebates. The projections do not incorporate distributions because the distribution program has terminated as of 2003. Projected water savings were calculated based on the methodology used above, and incorporate devices installed in previous years.

| Table 6.1 – 23: Single-Family Projected Residential Ultra-Low-Flush Toilet Replacement Program | | | | |
|---|-------------------------------|-------------------------------------|---------------------------|--------------------------------------|
| Year | Number of ULFT Rebates | Number of ULFT Distributions | Total Replacements | Projected Water Savings (AFY) |
| 2006 | 237 | 0 | 237 | 193 |
| 2007 | 237 | 0 | 237 | 199 |
| 2008 | 237 | 0 | 237 | 205 |
| 2009 | 237 | 0 | 237 | 212 |
| 2010 | 237 | 0 | 237 | 218 |

| Table 6.1 – 24: Multi-Family Projected Residential Ultra-Low-Flush Toilet Replacement Program | | | | |
|--|-------------------------------|-------------------------------------|---------------------------|--------------------------------------|
| Year | Number of ULFT Rebates | Number of ULFT Distributions | Total Replacements | Projected Water Savings (AFY) |
| 2006 | 30 | 0 | 30 | 29 |
| 2007 | 30 | 0 | 30 | 31 |
| 2008 | 30 | 0 | 30 | 32 |
| 2009 | 30 | 0 | 30 | 34 |
| 2010 | 30 | 0 | 30 | 36 |